REMARKS

Claims 1-7 and 9-13 are pending in the application. Claims 1, 2 and 7 have been amended herein. Favorable reconsideration of the application, as amended, is respectfully requested.

I. ALLOWABLE SUBJECT MATTER

Applicants again acknowledge with appreciation the allowance of claims 9-13.

II. OBJECTION TO NEW MATTER/REJECTION OF CLAIMS 1-7 UNDER 35 USC §101, 1st ¶

Applicants' amendment filed on April 24, 2007 has been objected to as introducing new matter in claims 1-7. Claims 1-7 have been rejected on the basis that the new matter is unsupported by the specification.

Applicants respectfully disagree with the Examiner for reasons that will be more apparent in view of the discussion below. However, in the interest of expediting favorable prosecution applicants have amended the claims to eliminate the relevant language.

Accordingly, applicants respectfully request that the objection/rejection be withdrawn.

III. REJECTIONS OF CLAIMS 1-7 UNDER 35 USC §112, 2nd ¶

Claims 1-7 stand rejected under 35 USC §112, second paragraph, as being indefinite. Applicants respectfully request withdrawal of the rejection for at least the following reasons.

Applicants respectfully submit that the apparent confusion regarding the subject matter of claims 1 and 7 may relate to the specific terminology used in the claims, particularly with regard to "state-type modulation rule". The Examiner feels that the claims are indefinite in that one having ordinary skill in the art would not understand what is meant by "state-type modulation rule". (O.A., p. 4).

In an effort to expedite favorable prosecution, applicants have amended the claim terminology to that which the Examiner may find more conventional, and thus definite. As will be appreciated, however, such claim terminology is clearly supported in the specification and therefore does not represent new matter in any way.

Specifically, applicants have amended claims 1 and 7 to recite how the prescribed modulation rule is at least one of (a) a modulation rule that uses state modulation; or (b) a modulation rule that uses a digital sum value. Essentially, applicants have amended claims 1 and 7 by replacing "a state-type modulation rule" with "a modulation rule that uses state modulation". In the instance where the prescribed modulation rule is a modulation rule that uses state modulation, the at least one parameter value is an initial value of a state.

Applicants respectfully submit that such the use of modulation rules that use state modulation and the use of modulation rules that use a digital sum value are both well known in the art of modulating data onto an optical disk or the like. Moreover, applicants respectfully submit that those having ordinary skill in the art will readily appreciate that which the applicants are claiming, regardless of the specific terminology used in the original claims (i.e., "state-type modulation rule") and which the Examiner considers indefinite. Applicants submit that the basic structure of applicants' invention

is known in the art as discussed below. Applicants' invention relates more particularly to the manner in which the initial value of the state, and/or the initial/target value of the digital sum value is changed.

Specifically, applicants refer to US Patent No. 6,195,778 (copy attached). The '778 patent issued in 2001. Thus, the '778 patent is indicative of what was known in the art at the time of the applicants' invention.

Figs. 1-6 of the '778 patent teach that state modulation via a state modulator was known and recognized by those having ordinary skill at the time of the present invention to be a manner for modulating data to be recorded on an optical disk. In particular, Figs. 3 and 4 show a main table 20 and a substitute table 22 in accordance with the DVD specification. The tables 20, 22 are divided into four sub-tables. One of the four sub-tables is chosen based on a current state. The '778 patent teaches that four *state modulation* is carried out by a four *state machine*. Fig. 6 of the '778 patent illustrates the four state machine. The '778 patent teaches that the modulation tables can be used to generate 16-bit codewords from symbol bytes in accordance with the DVD specification. (See, e.g., Col. 2, lns. 25-67).

Applicants respectfully submit that use and meaning of the term and the operation of "state modulation" as referred to in the present application is the same as that described in the '778 patent with the exception of the novel features of the invention, including those discussed below.

Applicants invite the Examiner to compare Figs. 1-6 and Col. 2, lns. 25-67 of the '778 patent, with Figs. 7, 9A and 9B of the present application. Such comparison makes clear that "state modulation" as used in the present application was well understood in the art at the time of the invention. For example, Fig. 7 of the present application illustrates a modulation section 105 for modulating data in accordance with a prescribed modulation rule (for example, *8/16 modulation*). Fig. 3 of the '778 patent shows a modulation section for performing *8/16 modulation*. (Col. 2, lns. 26-34).

Fig. 7 of the present application shows how the modulation section 105 includes a *main conversion* section 116 and a *sub conversion* section 117. Fig. 3 of the '778 patent illustrates how the modulation section includes a *main* table 20 and a *sub* table 22.

Fig. 9A of the present application shows an example of a *main conversion* table included in the main conversion section116 in accordance with the state modulation of the present invention. Similarly, Fig. 9B shows an example of the *sub conversion* table included in the sub conversion section 117. Each table includes four *sub tables* respectively showing *states 1 thru 4*. The four *sub tables* each include a *code word* and a *next state* for each *data symbol*. (See, e.g., Spec., p. 16, lns. 3-13).

Fig. 5 of the '778 patent shows a 3-line sample of a modulation table representative of the *main modulation* table or the *substitute modulation* table. The modulation table includes four *sub tables* with corresponding *states 1 thru 4*. The four *sub tables* each include a *codeword* and *next state* for the respective *symbols* 4, 5 and 6. (Col. 6, lns. 8-33).

Applicants respectfully submit that one having ordinary skill in the art would easily have recognized the general modulation described in the present application represents state modulation by a state modulator as was known in the art at the time of applicants' invention as evidenced by the '778 patent. Such modulation is clearly based on a current state, next state operation of a state machine as clearly described in both the present application and the '778 patent.

Accordingly, applicants respectfully submit that the present application clearly describes a modulation rule that uses "state modulation" as recited in amended claims 1 and 7. Since the Examiner feels that the language "state-type modulation rule" was indefinite in claims 1 and 7, applicants have removed such terminology in favor of generally accepted terminology as reflected by the '778 patent. The present specification clearly provides support for "a modulation rule that uses state modulation".

Moreover, there is no question that one having ordinary skill in the art would understand what is meant by modulating data using state modulation.

In view of the above, applicants respectfully submit that amended claims 1 and 7 are both definite and supported by the present application. One having ordinary skill in the art, e.g., one having knowledge in the types of data modulation described in the '778 patent, would readily recognize and understand that which is claimed by the applicants.

Regarding what distinguishes the present invention over that which is taught in the '778 patent, applicants respectfully note that the '778 patent does not teach or suggest, for example, the features of a parameter value changing section for changing at least one parameter of the prescribed modulation rule. More particularly, the '778 patent does not teach or suggest in the instance (a) where the prescribed modulation rule is a modulation rule that uses state modulation, the at least one parameter value is an initial value of a state; and in the instance (b) where the prescribed modulation rule is a modulation rule that uses a digital sum value, the at least one parameter value is the initial value or the target value of the digital sum value.

For at least the above reasons, applicants respectfully submit that claims 1-7 are definite, supported by the specification, and patentably distinguishable over the relevant art. Withdrawal of the application is respectfully requested.

IV. CONCLUSION

Accordingly, all claims 1-7 and 9-13 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

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